Burlholder, wildfire [Pseudomonas tabaci (Wolf & Foster)] E. L. Stevens, and target spot [Corynespora cassicola (Berk. & Curt.) Wei]. Seed holding is excellent.

Covan was screened for resistance to phytophthora rot in the greenhouse at Stoneville and in the field at Stoneville where it was grown on Sharkey clay heavily infested with phytophthora rot in a continuous soybean cropping system. Early screening against root-knot nematode [Meloidogyne incognita (Kofoid & White)] was done in the greenhouse at Gainesville, Florida. Field screening against M. arenaria was conducted near Blackville, South Carolina. Covan was evaluated in regional trials in 1968-1970. It was further evaluated in 1976-1977 where M. arenaria was identified as a problem in the Coastal Plain region of South Carolina. In the absence of M. arenaria, Covan averages slightly lower in yield than Bragg. In the presence of M. arenaria, Covan will produce a successful crop where Bragg is a complete failure.

Seed was distributed for increase in South Carolina, North Carolina, and Alabama in 1972. 'The South Carolina Agric. Exp. Stn. will be responsible for maintaining breeder seed.

REGISTRATION OF CROP CULTIVARS

REGISTRATION OF BEDFORD SOYBEANS

E. E. Hartwig and J. M. Epps

Borah', wildfire [Pseudomonas tabaci (Wolf & Foster)] E. L. Stevens, and target spot [Corynespora cassicola (Berk. & Curt.) Wei]. Seed holding is excellent.

Sawtell has averaged 4 days later in heading than Borah. In the absence of M. arenaria, Covan averages slightly lower in yield than Bragg. In the presence of M. arenaria, Covan will produce a successful crop where Bragg is a complete failure.

Seed was distributed for increase in South Carolina, North Carolina, and Alabama in 1972. 'The South Carolina Agric. Exp. Stn. will be responsible for maintaining breeder seed.

REGISTRATION OF BEDFORD SOYBEANS

E. E. Hartwig and J. M. Epps

'Bedford' soybean [Glycine max (L.) Merr.] originated as an F2 line selected from the crosses 'Forrest' (2) × (668-18 × PI 88788). Bedford was developed in a cooperative program of FR-SEA-USDA, and the Mississippi and Tennessee Agric. Exp. Stns. Bedford was identified at 18-4 before release. It is classified as a late Group V maturity.

Bedford has white flowers, tawny pubescence, tan pods, yellow seed coats, and black hila. It is highly resistant to Races 1, 3, and 4 of the soybean cyst nematode [Heterodera glycines Ichinohe], and moderately resistant to the root-knot nematode [Meloidogyne incognita (Kofoid & White)], and has excellent field resistance to phytophthora rot [Phytophthora megasperma Drechs var. sojae Hildebrand]. It is resistant to the foliar disease bacterial pustule [Xanthomonas phaseli (Smith) Dowson var. sojensis (Hedegry)] Starr & Burkholder, wildfire [Pseudomonas tabaci (Wolf & Foster)] E. L. Stevens, and target spot [Corynespora cassicola (Berk. & Curt.) Wei]. Shatter resistance is excellent.

A modified backcrossing program was used in the development of Bedford. D68-18, a line resistant to cyst nematode Races 1 and 3, was crossed with PI 88788, the source of resistance to Race 4. The F2 population was screened in the greenhouse at Jackson, Tennessee, and plants free of cysts were transplanted to a field infested with Race 4 nematodes. Forty vigorous F2 plants were used as males for crossing on to D68-128, later released as 'Forrest'. The plants x a selection from 'Corsoy' which is in leaf-flavonol class 2, F2 plants were grown during the winter months from the most resistant males. The F2 population was screened in the greenhouse and plants free of nematodes were transplanted to a field where Race 4 was a problem. Twenty F2 plants were used as males for crossing on to Forrest. Males were progeny tested and F2 plants were grown during the winter months from the most resistant males. The F2 population was screened in the greenhouse and plants free of cysts were transplanted to the field. The F2 plants were harvested individually and progeny tested for reaction to the cyst nematode Race 4 in the greenhouse at Jackson, Tennessee. Third generation plants were grown in the greenhouse at Stoneville during the winter months. Fourth generation lines were grown in a field infested with Race 4 in northwestern Tennessee. In addition, 10 seed of each line were planted in 55 gallon drums driven into the soil at Jackson that had been heavily infested with cysts. From the 3 cycles of breeding, and screening over 35,000 second generation seedlings, we obtained 135 cyst-resistant lines with good agronomic qualities for more thorough field evaluation.

Selected lines were evaluated for seed yield at Stoneville, where there were no nematode problems; at Ames Plantation in Tennessee where Race 3 was a problem; and at East Prairie, Missouri, where cyst nematodes Races 3 and 4, and root-knot nematodes were a problem. Additional plantings were made in fields in western Tennessee to further evaluate for Race 4 reaction. In these plantings, Bedford equaled Forrest in seed yield where Race 4 was a problem, and greatly exceeded Forrest where Race 4 was a problem. As a mean of 15 additional comparisons where Race 4 was not a problem, Bedford has equaled Forrest in seed yield and has produced yield nearly double that for Forrest where Race 4 was a problem.

Bedford was distributed in 1977 for increase in Tennessee, Missouri, Arkansas, Mississippi, and Kentucky. The Mississippi Agric. Forestry Exp. Stn. will be responsible for maintenance of breeder seed. Other information on Bedford was published in Mississippi Information Sheet 1280, January, 1978.


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REGISTRATION OF HARCOR SOYBEANS

R. I. Buzell

'Harcor' soybean [Glycine max (L.) Merr.] was developed by the Agriculture Canada Research Station, Harrar, Ontario, Canada. It originated as an F2 plant selection from the cross of 'Corsoy' by OX383 which is a selection from Corsoy × 'Harsoy 63'. Prior to release in 1975, Harcor was designated OX271. It is similar to Corsoy in plant type and yield but matures about 2 days later. Regional and provincial tests indicate that Harcor is similar in maturity but is higher yielding than 'Amsoy 71'. Harcor has better field tolerance to other races. Harcor has better field tolerance to Ptn than does Harsoy 63; averaged over three tests (1974-76) in a race-6-infested field at Woodlee, Ontario, Harcor had 14% plant loss from phytophthora rot during the period of emergence to maturity compared with 39% for Harsoy 63.

Distinguishing characteristics are purple flowers, grey pubescence, brown pods, and shiny, yellow seeds with yellow hila. In addition it has high peroxidase activity (EP) in the seed-coats, is susceptible to powdery mildew caused by Microspora difflata Cke & Pk., is in leaf-flavonol class 2f (Fg, Fg, Fg, Fg), and gives an insensitive response (e) to fluorescent-daylength conditions. Other information on Harcor has been published.

The Harrow Research Station will maintain breeder seed of Harcor. Seed was distributed to Illinois, Iowa, Minnesota, Nebraska, Ohio, and South Dakota for increase under the regulations of the respective state seed-certification agency.


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REGISTRATION OF SAWTLE WHEAT

D. W. Sudderat and M. M. Searns

'Sawtelle' hard red spring wheat [Triticum aestivum L. em. Thell.,] CI 17424, was released jointly by the FR, SEA, USDA and the Oregon, Washington Agricultural Experimental Stations in 1972.

Sawtelle was derived from a single F1 line selected in 1969 from the cross of Sonora 647/Winma' made in 1965. It was entered in the USDA wheat panel in 1970 and in the Western Regional Spring Wheat Nursery in 1979.

Sawtelle is a moderately stiff-strawed semi-dwarf cultivar of medium maturity. It has had an average height of 81 cm, about 8 cm taller than 'Borah', when grown under irrigation. Sawtelle has averaged 4 days later in heading than Borah. Spikes of Sawtelle are erect to inclined, awned, fusiform, and